

REMARKS

This Amendment is filed in response to the Final Action of April 5, 2010 in which claims 1-3, 10-17, 24-31 and 38-43 were rejected and claims 4, 18 and 32 objected to.

I. Amendments and claim rejection under 35 USC § 112

Claim 43 was rejected by the Office as not being described in the original specification. The claim has therefore been changed back to the original formulation, except for removing the “means” language, which had not been objected to by the Office in the first office action. Withdrawal of the 35 U.S.C. 112, first paragraph, rejection of claim 43 is requested.

In addition, claim 43 has been limited with the features of claim 4 and intervening claim 3, which were considered allowable by the Office. Allowance of claim 43 is requested.

All other claims remain unchanged.

II. Claim rejections under 35 USC § 103

The Office rejected claim 1 as being rendered obvious by *Tapia* (US 5,555,285) in view of *Howard* (US 2006/0209881). The Office is respectfully requested to reconsider this estimation.

The Office considered *Howard* to disclose specifically that a setting of coefficients may comprises for an equalization of phase of a channel

- setting a complex coefficient as a phase rotator part of an equalizer (par. [0068] of *Howard*);
- setting at least one coefficient of a non-real complex allpass filter part of the equalizer (par. [0039] and reference signs 122, 124 of Fig. 1 of *Howard*);
- setting at least one coefficient of a real allpass filter part of the equalizer (par. [0039] and reference signs 112, 114 of Fig. 1 of *Howard*).

This estimation is contested.

Paragraph [0068] of *Howard* only mentions that the coefficients of a filter can be phase-rotated for enabling an implementation of the filter with a reduced complexity (see par. [0067]). A phase rotator part of an equalizer, in contrast, has to be understood to apply a phase rotation to an input signal, not to comprise phase rotated coefficients. Thus, *Howard* does not disclose setting a complex coefficient as a phase rotator part of an equalizer.

The architecture 100 presented in Figure 1 and described in paragraph [0039] of *Howard* comprises only a single equalization section 120 with filters 122 and 124. Both have complex filter coefficients. Root Raised Cosine (RRC) filters 112, 114, which are considered by the Office to disclose a real allpass filter of an equalizer, do not belong to the equalization section 120. Thus, *Howard* discloses neither a real filter part of an equalizer nor a setting of a coefficient of such a real filter part of an equalizer.

The Office further considered the real and complex allpass filter parts of claim 1 to correspond to the Root Raised Cosine (RRC) filters 112, 114 and the FIR filters 122, 124, respectively, of the architecture 100 of Figure 1 presented by *Howard*. It is not apparent why these RRC and FIR filters should be considered to be allpass filters. For FIR filter 124 it is even indicated explicitly in paragraph [0056] that this is not the case: "The filter is designed as a pass-band filter which is then down-converted to a complex low-pass structure suitable for implementation in the transmit digital processing." Thus, *Howard* discloses neither allpass filter parts nor a setting of coefficients of such allpass filter parts.

Summarized, neither *Tapia* (as conceded by the Office) nor *Howard* discloses an equalizer including the combination of a phase rotator part, a real allpass filter part and a complex allpass filter part as required by claim 1 of the present application.

On the whole, it becomes apparent that claim 1 is neither anticipated nor rendered obvious by the cited references.

The same applies to the **independent claims 15 and 29**, which comprise corresponding features, and consequently to the **dependent claims** as well.

Independent claim 43 has already been limited with features that were considered

allowable. The dependent claims rejected on this ground are nonobvious for at least the same reasons.

Withdrawal of the 35 U.S.C. 103 rejection of claims 1, 3, 11, 15, 17, 25, 29, 31, 39 and 43 is requested.

Regarding the obviousness rejection of claims 2, 16 and 30 in Section 3, these claims depend from independent claims 1, 15 and 29 and are nonobvious for at least the same reasons as given above in Applicants overcoming the rejection of claims 1, 15 and 29. Withdrawal of the 35 U.S.C. 103(a) rejection of claims 2, 16 and 30 is requested.

Regarding the obviousness rejection of claims 10, 24 and 38 in Section 4, these claims depend from claims 1, 15 and 29. Withdrawal of the 35 U.S.C. 103(a) rejection of claims 10, 24 and 38 is requested.

Regarding the obviousness rejection of claims 12, 13, 26, 27, 40 and 41 in Section 5, these claims depend from claims 1, 15 and 29. Withdrawal of the 35 U.S.C. 103(a) rejection of claims 12, 13, 26, 27, 40 and 41 is requested.

Regarding the obviousness rejection of claims 14, 28 and 42 in Section 6, these claims depend from claims 1, 15 and 29. Withdrawal of the 35 U.S.C. 103(a) rejection of claims 14, 28 and 42 is requested.

The objections and rejections of the Office Action of April 5, 2010, having been obviated by amendment or shown to be inapplicable, withdrawal thereof is requested and passage of claims 1-4, 10-18, 24-32, and 38-43 to issue is earnestly solicited.

Respectfully submitted,
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